

WHAT IS CLAIMED IS:

1. An end mill comprising:

a cylindrical body having (a) a plurality of flutes each of which is formed in said cylindrical body and each of which extends from an axially distal end of said cylindrical body toward an axially proximal end of said cylindrical body, (b) a plurality of peripheral cutting edges each of which is provided by one of widthwise opposite edges of a corresponding one of said plurality of flutes, and (c) a plurality of end cutting edges each of which is located at said axially distal end of said cylindrical body and is contiguous to a corresponding one of said plurality of peripheral cutting edges,

wherein said plurality of end cutting edges include first and second end cutting edges, while said plurality of peripheral cutting edges include first and second peripheral cutting edges which are contiguous to said first and second end cutting edges, respectively,

and wherein a first axial rake angle of said first end cutting edge is smaller than a second axial rake angle of said second end cutting edge, while a first radial rake angle of said first peripheral cutting edge is larger than a second radial rake angle of said second peripheral cutting edge.

2. An end mill according to claim 1,

wherein the radial rake angle of each of said peripheral cutting edges corresponds to an angle between a rake

face of each of said peripheral cutting edges and a radial line passing through said each of said peripheral cutting edges in a plane perpendicular to an axis of said cylindrical body, said rake face of each of said peripheral cutting edges being provided by a corresponding one of said plurality of flutes,

and wherein the axial rake angle of each of said end cutting edges corresponds to an angle between a rake face of each of said end cutting edges and a line parallel to the axis of said cylindrical body, said rake face of each of said end cutting edges being provided by a corresponding one of end gashes which are formed in an axially distal end face of said cylindrical body.

3. An end mill according to claim 1,
wherein said cylindrical body is made of a cemented carbide.

4. An end mill according to claim 1,
wherein the axial rake angle of each of said plurality of end cutting edges is not smaller than -2° and is not larger than $+10^\circ$,

and wherein the radial rake angle of each of said plurality of peripheral cutting edges is not smaller than $+3^\circ$ and is not larger than $+20^\circ$.

5. An end mill according to claim 1,
wherein said plurality of end cutting edges consist of an even number of end cutting edges,

and wherein said plurality of peripheral cutting edges consist of an even number of peripheral cutting edges.

6. An end mill according to claim 5,

wherein said even number of end cutting edges consist of said first and second end cutting edges which are alternately arranged as viewed in a circumferential direction of said cylindrical body,

and wherein said even number of peripheral cutting edges consist of said first and second peripheral cutting edges which are alternately arranged as viewed in the circumferential direction of said cylindrical body.

7. An end mill according to claim 6,

wherein said first axial rake angle of said first end cutting edge is not smaller than -2° and is not larger than $+2^{\circ}$, while said second axial rake angle of said second end cutting edge is not smaller than $+4^{\circ}$ and is not larger than $+8^{\circ}$,

and wherein said first radial rake angle of said first peripheral cutting edge is not smaller than $+13^{\circ}$ and is not larger than $+17^{\circ}$, while said second radial rake angle of said second peripheral cutting edge is not smaller than $+4^{\circ}$ and is not larger than $+8^{\circ}$.

8. An end mill according to claim 5,

wherein said even number of end cutting edges consist of at least four end cutting edges which includes another

first end cutting edge in addition to said first end cutting edge,

wherein the two first end cutting edges are located symmetrically with respect to an axis of said cylindrical body, and have respective radially inner ends each of which lies substantially at said axis,

and wherein said first axial rake angle of each of said two first end cutting edges is smaller than an axial rake angle of each of the other of said at least four end cutting edges.

9. An end mill according to claim 1,

wherein said plurality of flutes have respective radially inner ends cooperating with each other to define a core diameter which is constant as viewed in a circumferential direction of said cylindrical body.